

NPDES Permit No. IL0004171  
Notice No. LRL:14100901.docx

Public Notice Beginning Date: **April 8, 2015**

Public Notice Ending Date: **May 8, 2015**

National Pollutant Discharge Elimination System (NPDES)  
Permit Program

Draft Reissued NPDES Permit to Discharge into Waters of the State

Public Notice/Fact Sheet Issued By:

Illinois Environmental Protection Agency  
Bureau of Water  
Division of Water Pollution Control  
Permit Section  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276  
217/782-0610

Name and Address of Discharger:

Electric Energy, Inc.  
Water & Waste Permitting / Environmental Compliance  
1500 Eastport Plaza Drive  
Collinsville, Illinois 62234

Name and Address of Facility:

Electric Energy, Inc.  
Joppa Power Plant  
2100 Portland Road  
Joppa, Illinois 62953  
(Massac County)

The Illinois Environmental Protection Agency (IEPA) has made a tentative determination to reissue an NPDES permit to discharge into the waters of the state and has prepared a draft permit and associated fact sheet for the above named discharger. The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice/Fact Sheet. The last day comments will be received will be on the Public Notice period ending date unless a commentor demonstrating the need for additional time requests an extension to this comment period and the request is granted by the IEPA. Interested persons are invited to submit written comments on the draft permit to the IEPA at the above address. Commentors shall provide his or her name and address and the nature of the issues proposed to be raised and the evidence proposed to be presented with regards to those issues. Commentors may include a request for public hearing. Persons submitting comments and/or requests for public hearing shall also send a copy of such comments or requests to the permit applicant. The NPDES permit and notice number(s) must appear on each comment page.

The application, engineer's review notes including load limit calculations, Public Notice/Fact Sheet, draft permit, comments received, and other documents are available for inspection and may be copied at the IEPA between 9:30 a.m. and 3:30 p.m. Monday through Friday when scheduled by the interested person.

If written comments or requests indicate a significant degree of public interest in the draft permit, the permitting authority may, at its discretion, hold a public hearing. Public notice will be given 45 days before any public hearing. Response to comments will be provided when the final permit is issued. For further information, please call Leslie Lowry at 217/782-0610.

The applicant is engaged in the operation of an existing 1,100 MW coal-fired steam electric generating station (SIC 4911). Plant operation results in an average discharge of 7.2 MGD of ash pond discharge from outfall 001, an intermittent discharge of metal cleaning waste from internal outfall A01, 0.4 MGD of intake screen backwash from outfall 005, 410 MGD of condenser cooling water units 1 - 4 and auxiliary equipment cooling water from outfall 006, 182 MGD of condenser cooling water units 5 - 6 and auxiliary equipment cooling water from outfall 007, 1.4 MGD of flume discharge from outfall 008, an intermittent discharge of metal cleaning waste from internal outfall A08, 3.2 MGD of settling lagoon discharge from outfall 010, an intermittent discharge of metal cleaning waste from internal outfall A10, an intermittent discharge of stormwater runoff from the former ash pond from outfall 011, an intermittent discharge of stormwater runoff from the railroad car unloading facility from outfall 012, an intermittent discharge of stormwater runoff from the railroad car unloading facility and berm of the ash pond from outfall 013, and 0.075 MGD of lagoon sewage treatment plant effluent and MEPI sanitary waste from outfall 014.

Application is made for the existing discharges which are located in Massac County, Illinois. The following information identifies the discharge point, receiving stream and stream classifications:

<u>Outfall</u>	<u>Receiving Stream</u>	<u>Latitude</u>		<u>Longitude</u>		<u>Stream Classification</u>	<u>Integrity Rating</u>
001	Unnamed Tributary to Ohio River	37° 13' 11"	North	88° 51' 00"	West	General Use	Not Rated
005	Ohio River	37° 12' 28"	North	88° 51' 42"	West	General Use	Not Rated
006	Ohio River	37° 12' 28"	North	88° 51' 43"	West	General Use	Not Rated
007	Ohio River	37° 12' 27"	North	88° 51' 42"	West	General Use	Not Rated
008	Ohio River	37° 12' 28"	North	88° 51' 42"	West	General Use	Not Rated
010	Ohio River	37° 12' 26"	North	88° 51' 37"	West	General Use	Not Rated
011	Unnamed Tributary to Ohio River	37° 12' 34"	North	88° 51' 50"	West	General Use	Not Rated
012	Unnamed Tributary to Ohio River	37° 12' 34"	North	88° 51' 11"	West	General Use	Not Rated
013	Unnamed Tributary to Ohio River	37° 12' 36"	North	88° 51' 05"	West	General Use	Not Rated
014	Unnamed Tributary to Ohio River	37° 13' 09"	North	88° 51' 57"	West	General Use	Not Rated

To assist you further in identifying the location of the discharge please see the attached map.

The stream segment, IL\_A-920-981, receiving the discharges from outfalls 005, 006, 007, 008, and 010 is on the draft 2014 303(d) list of impaired waters and is not a biologically significant stream on the 2008 Illinois Department of Natural Resources Publication – *Integrating Multiple Taxa in a Biological Stream Rating System*.

The stream segment receiving the discharge from outfalls 001, 011, 012, 013, and 014 is not on the draft 2014 303(d) list of impaired waters and is not a biologically significant stream on the 2008 Illinois Department of Natural Resources Publication – *Integrating Multiple Taxa in a Biological Stream Rating System*.

The following parameters have been identified as the pollutants causing impairment:

<u>Potential Cause:</u>	<u>Designated Use:</u>
Dioxin (including 2,3,7,8-TCDD), Mercury, Polychlorinated Biphenyls, and Fecal Coliform	Fish Consumption and Primary Contact Recreation

The discharges from the facility shall be monitored and limited at all times as follows:

	<u>LOAD LIMITS lbs/day</u> <u>DAF (DMF)</u>			<u>CONCENTRATION</u> <u>LIMITS mg/l</u>		
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION
<u>Outfall 001:</u>						
Flow (MGD)						
pH				6.0 - 9 s.u.		35 IAC 304.125
Total Suspended Solids				15.0	30.0	35 IAC 304.124
Oil & Grease				15.0	20.0	40 CFR 423.12
Molluscicide						40 CFR 125.3

Mercury				Monitor Only		
	LOAD LIMITS lbs/day DAF (DMF)			CONCENTRATION LIMITS mg/l		
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION
<u>Outfall A01:</u>						
Flow (MGD)						
Total Suspended Solids				30.0	100.0	40 CFR 423.12
Oil & Grease				15.0	20.0	40 CFR 423.12
Copper (Total)				1.0	1.0	40 CFR 423.12
Iron (Total)				1.0	1.0	40 CFR 423.12
<u>Outfall 005:</u>						
Flow (MGD)						
There shall be no discharge of collected debris from the outer bar racks other than trace amounts.						
<u>Outfall 006:</u>						
Flow (MGD)						
pH				6 - 9 s.u.		35 IAC 304.125
Temperature						35 IAC 302.211 & 35 IAC 106
Total Residual Chlorine / Total Residual Halogen					0.05	35 IAC 302.208 & 40 CFR 125.3
<u>Outfall 007:</u>						
Flow (MGD)						
pH				6 - 9 s.u.		35 IAC 304.125
Temperature						35 IAC 302.211 & 35 IAC 106
Total Residual Chlorine / Total Residual Halogen					0.05	35 IAC 302.208 & 40 CFR 125.3
<u>Outfall 008:</u>						
Flow (MGD)						
pH				6 - 9 s.u.		35 IAC 304.125

Temperature						35 IAC 302.211 & 35 IAC 106
	LOAD LIMITS lbs/day DAF (DMF)			CONCENTRATION LIMITS mg/l		
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION
<u>Outfall 008 cont.:</u>						
Total Suspended Solids				15.0	30.0	35 IAC 304.124
Oil & Grease				15.0	20.0	40 CFR 423.12
Molluscicide						40 CFR 125.3
<u>Outfall A08:</u>						
Flow (MGD)						
Total Suspended Solids				30.0	100.0	40 CFR 423.12
Oil & Grease				15.0	20.0	40 CFR 423.12
Copper (Total)				1.0	1.0	40 CFR 423.12
Iron (Total)				1.0	1.0	40 CFR 423.12
<u>Outfall 010:</u>						
Flow (MGD)						
pH				6 - 9 s.u.		35 IAC 304.125
Total Suspended Solids				15.0	30.0	35 IAC 304.124
Oil & Grease				15.0	20.0	40 CFR 423.12
Molluscicide						40 CFR 125.3
Mercury				Monitor Only		
<u>Outfall A10:</u>						
Flow (MGD)						
Total Suspended Solids				30.0	100.0	40 CFR 423.12
Oil & Grease				15.0	20.0	40 CFR 423.12
Copper (Total)				1.0	1.0	40 CFR 423.12
Iron (Total)				1.0	1.0	40 CFR 423.12

	LOAD LIMITS lbs/day DAF (DMF)			CONCENTRATION LIMITS mg/l		
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION	30 DAY AVERAGE	DAILY MAXIMUM	REGULATION
<u>Outfall 011:</u>						
SWPPP						
<u>Outfall 012:</u>						
Mercury				Monitor Only		
SWPPP						
<u>Outfall 013:</u>						
SWPPP						
<u>Outfall 014:</u>						
Flow (MGD)						
pH				6 - 9 s.u.		35 IAC 304.125
BOD <sub>5</sub>	18	37		30	60	35 IAC 304.120
Total Suspended Solids	23	46		37	74	35 IAC 304.120
Dissolved Oxygen (DO)				The DO concentration shall not be less than 6 mg/l.		35 IAC 302.206
Fecal Coliform				Monitor Only		

## Load Limit Calculations:

- A. Load limit calculations for Outfall 014 for the following pollutant parameters were based on a design maximum flow of 0.075 MGD and using the formula of maximum flow (MGD) X concentration limit (mg/l) X 8.34 = the average or maximum load limit (lbs/day): Total Suspended Solids and BOD<sub>5</sub>.

The following explain the conditions of the proposed permit:

The Special Conditions clarify flow, pH, temperature Total Residual Chlorine/Total Residual Halogen, monitoring location, Discharge Monitoring Report submission, stormwater, Class K operator, Clam-Trol, metals monitoring, biomonitoring, and additives.

The facility has a year round disinfection exemption for Outfall 014, which was granted on August 17, 1993.

The reissuance of this permit will include the continued approved usage of water treatment additives as identified in the permit application.

The facility does not have any PCB's on-site. All PCB containing equipment was removed in the 1980's.

The facility conducted a demonstration pursuant to Section 316(a) of the CWA and this was approved by the Illinois Pollution Control Board in Order 77-124 dated September 1, 1977. In the event the facilities generation capacity is exceeded, the ORSANCO temperature limits apply as listed in Special Condition 5. In accordance with 35 Ill. Adm. Code 106.1180, the facility has demonstrated that the nature of the thermal discharge has not changed and the alternative thermal effluent limitation granted by the Board has not caused appreciable

harm to a balanced, indigenous population of shellfish, fish, and wildlife in the Ohio River.

Electric Energy, Inc. demonstration for the Joppa Power Plant in accordance with Section 316(b) of the CWA was approved by this Agency by letter dated April 12, 1979. Based on available information, the Agency has determined that the operation of the cooling water intake structure meets the equivalent of Best Technology Available (BTA) in accordance with the Best Professional Judgment provisions of 40 CFR 125.3 and 40 CFR 125.90(b), based on information available at the time of permit reissuance. Special Condition 20 requires additional information to be submitted to the Agency so that the Agency can evaluate the potential impacts of the cooling water intake structure operations pursuant to 40 CFR 125.90(b).

#### Intake Structure Description:

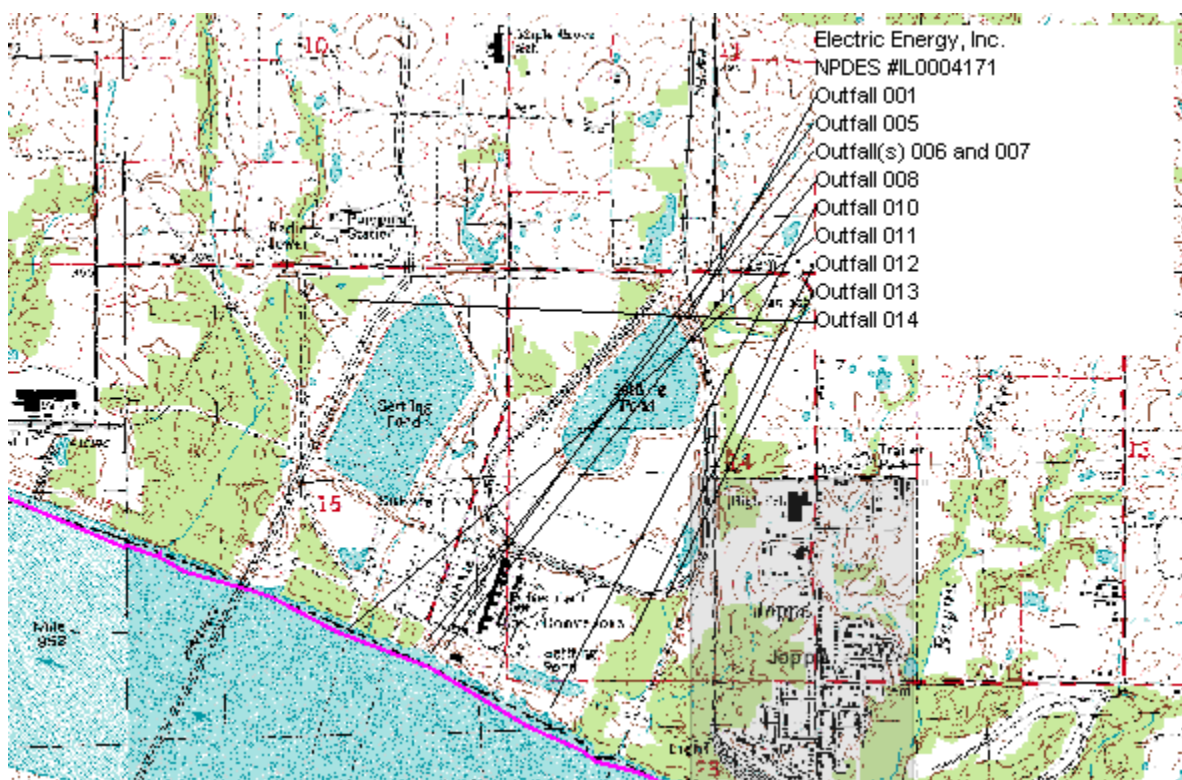
Twelve circulating water pumps are located within the intake structure, 8 pumps supply Units 1 through 4, and 4 pumps supply Units 5 and 6. All pumps have a reported nominal capacity of 42,000 gpm. At this rate, the total flow for the plant is 504,000 gpm or 726 MGD. Since the screen wash and service water pump intakes are from the circulating water pump discharge lines, these systems do not change significantly the capacity of the CWIS. The actual pumping capacity at any time depends on the river elevation, the number of units/pumps in operation, the cleanliness of the screens, the age of the pumps and other factors.

The table below gives the normal maximum intake pumping capacity per pump for several river elevations. Also shown in this table are the calculated through screen velocities for the intake screens manufactured by SSI and FMC. If the screens are not clean, the through-screen velocity will increase proportionally.

<b>River Elevation</b>	<b>Normal Maximum Intake Capacity per Pump (4 Pumps/2 Units)</b>	<b>Approach Velocity at Bar Racks</b>	<b>Through-screen Velocity (Clean) SSI Screens</b>	<b>Through-screen Velocity (Clean) FMC Screens</b>
ft	gpm	ft/s	ft/s	ft/s
315.0 normal high	44,361	0.22	0.43	0.37
304.5 pump rating	42,000	0.27	0.52	0.45
290.0 normal low	38,113	0.42	0.77	0.65
275.5 design low	33,534	1.36	1.77	1.50

The table shows that the actual pumping capacity per pump at a normal low water level (river stage = 290 ft) is approximately 9 percent less than the nominal rated value. Conversely, the actual pumping capacity per pump at normal high water (river stage 315 ft) is approximately 6 percent greater than the nominal rated value. Therefore, the maximum design intake flow for the CWIs is 532,332 gpm or 767 MGD.

While the total pumping capacity increases with river stage, the through-screen velocities decrease as the river stage increases. At the normal low water level (290 ft msl) and above, the through-screen velocities are relatively low (less than 0.8 ft/s), and the approach velocity at the bar rack is less than 0.5 ft/s. It is worth noting that EPA has determined that an approach velocity of 0.5 ft/s protected 96 percent of the fish tested from impingement. Furthermore, based on 742 stage measurements made by the USGS at Station 03611500 near Metropolis, IL the river stage is above 290 ft msl 96 percent of the time.



Public Notice of Draft Permit

Public Notice Number LRL:14100901.docx is hereby given by Illinois EPA, Division of Water Pollution Control, Permit Section, 1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois, 62794-9276 (herein Agency) that a draft National Pollutant Discharge Elimination System (NPDES) Permit Number IL0004171 has been issued under 40 CFR 124.6(d) for Electric Energy, Inc., 2100 Portland Road, Joppa, Illinois, 62953 for discharge into the Ohio River and an Unnamed Tributary to the Ohio River from the Joppa Power Plant, Joppa, Illinois, Massac County. The applicant is engaged in the operation of an existing 1,100 MW coal-fired steam electric generating station (SIC 4911). Plant operation results in an average discharge of 7.2 MGD of ash pond discharge from outfall 001, an intermittent discharge of metal cleaning waste from internal outfall A01, 0.4 MGD of intake screen backwash from outfall 005, 410 MGD of condenser cooling water units 1 - 4 and auxiliary equipment cooling water from outfall 006, 182 MGD of condenser cooling water units 5 - 6 and auxiliary equipment cooling water from outfall 007, 1.4 MGD of flume discharge from outfall 008, an intermittent discharge of metal cleaning waste from internal outfall A08, 3.2 MGD of settling lagoon discharge from outfall 010, an intermittent discharge of metal cleaning waste from internal outfall A10, an intermittent discharge of stormwater runoff from the former ash pond from outfall 011, an intermittent discharge of stormwater runoff from the railroad car unloading facility from outfall 012, an intermittent discharge of stormwater runoff from the railroad car unloading facility and berm of the ash pond from outfall 013, and 0.075 MGD of lagoon sewage treatment plant effluent and MEPI sanitary waste from outfall 014.

The application, draft permit and other documents are available for inspection and may be copied at a cost of 25 cents per page at the Agency between 9:30 A.M. and 3:30 P.M. Monday through Friday. A Fact Sheet containing more detailed information is available at no charge. For further information, call the Public Notice Clerk at 217/782-0610.

Interested persons are invited to submit written comments on the draft permit to the Agency at the above address. The NPDES Permit and Joint Public Notice numbers must appear on each comment page. All comments received by the Agency not later than 30 days from the date of this publication shall be considered in making the final decision regarding permit issuance.

Any interested person may submit written request for a public hearing on the draft permit, stating their name and address, the nature of the issues proposed to be raised and the evidence proposed to be presented with regards to these issues in the hearing. Such requests must be received by the Agency not later than 30 days from the date of this publication.

If written comments and/or requests indicate a significant degree of public interest in the draft permit, the permitting authority may, at its discretion, hold a public hearing. Public notice will be given 30 days before any public hearing.

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NPDES Permit No. IL0004171

Illinois Environmental Protection Agency

Division of Water Pollution Control

1021 North Grand Avenue East

Post Office Box 19276

Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Reissued (NPDES) Permit

Expiration Date:

Issue Date:

Effective Date:

Name and Address of Discharger:

Electric Energy, Inc.  
Water & Waste Permitting / Environmental Compliance  
1500 Eastport Plaza Drive  
Collinsville, Illinois 62234

Name and Address of Facility:

Electric Energy, Inc.  
Joppa Power Plant  
2100 Portland Road  
Joppa, Illinois 62953  
(Massac County)

Discharge Number and Name:

Receiving Waters

001 Ash Pond Discharge	Unnamed Tributary to Ohio River
A01 Metal Cleaning Waste	
005 Intake Screen Backwash	Ohio River
006 Condenser Cooling Water Units 1 - 4 & Auxiliary Equipment Cooling Water	Ohio River
007 Condenser Cooling Water Units 5 - 6 & Auxiliary Equipment Cooling Water	Ohio River
008 Flume Discharge	Ohio River
A08 Metal Cleaning Waste	
010 Settling Lagoon Discharge	Ohio River
A10 Metal Cleaning Waste	
011 Stormwater Runoff from Former Ash Pond	Unnamed Tributary to Ohio River
012 Stormwater Runoff from Railroad Car Unloading Facility	Unnamed Tributary to Ohio River
013 Stormwater Runoff from Railroad Car Unloading Facility & Berm of an Ash Pond	Unnamed Tributary to Ohio River
014 Lagoon Sewage Treatment Plant Effluent & MEPI Sanitary Waste	Unnamed Tributary to Ohio River

In compliance with the provisions of the Illinois Environmental Protection Act, Title 35 of Ill. Adm. Code, Subtitle C and/or Subtitle D, Chapter 1, and the Clean Water Act (CWA), the above-named permittee is hereby authorized to discharge at the above location to the above-named receiving stream in accordance with the standard conditions and attachments herein.

Permittee is not authorized to discharge after the above expiration date. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit the proper application as required by the Illinois Environmental Protection Agency (IEPA) not later than 180 days prior to the expiration date.

Alan Keller, P.E.  
Manager, Permit Section  
Division of Water Pollution Control

## NPDES Permit No. IL0004171

## Effluent Limitations and Monitoring

1. From the effective date of this permit until the expiration date, the effluent of the following discharges shall be monitored and limited at all times as follows:

	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l			
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
<u>Outfall 001 - Ash Pond Discharge***</u> (Average Flow = 7.2 MGD)  This discharge consists of: 1. Bottom Ash and Fly Ash Sluice Water 2. Demineralizer Regenerant Waste 3. Central Water Treatment Building Floor Drains 4. Settling Lagoon and Intake Dredging Wastewater* 5. Reverse Osmosis / Demineralizer System Backwash 6. Wastewater from Gas Turbine Site** 7. Ash Landfill Leachate 8. Metal Cleaning Waste (A01)						
Flow (MGD)	See Special Condition 1.				1/Week	Calculation
pH	See Special Condition 2.				1/Week	Grab
Total Suspended Solids			15.0	30.0	1/Month	Composite
Oil & Grease			15.0	20.0	1/Month	Grab
Molluscicide	See Special Condition 17.				1/Month	Grab
Mercury	See Special Condition 21.		Monitor Only		1/Quarter	Grab
* - Discharge to the ash pond is an alternate routing. ** - The incidental amounts of wastewater from the facility's gas turbine site includes collected rainwater, turbine water injection, inlet fogging water, and turbine wash water. *** - See Special Conditions 16, 19, and 23.						
<u>Outfall A01 - Metal Cleaning Waste (Non-Chemical Only)</u> (Average Flow = Intermittent Discharge)						
Flow (MGD)	See Special Condition 1.				1/Month	Measure
Total Suspended Solids			30.0	100.0	1/Month	Grab
Oil & Grease			15.0	20.0	1/Month	Grab
Copper (Total)			1.0	1.0	1/Month	Grab
Iron (Total)			1.0	1.0	1/Month	Grab

## NPDES Permit No. IL0004171

## Effluent Limitations and Monitoring

1. From the effective date of this permit until the expiration date, the effluent of the following discharges shall be monitored and limited at all times as follows:

	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l			
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
Outfall 005 - Intake Screen Backwash* (Average Flow = 0.4 MGD)						
Flow (MGD)	See Special Condition 1.				1/Month	Calculation
* - There shall be no discharge of collected debris from the outer bar racks other than trace amounts.						
Outfall 006 - Condenser Cooling Water Units 1 - 4 & Auxiliary Equipment Cooling Water* (Average Flow = 410 MGD)						
Flow (MGD)	See Special Condition 1.				Continuous	Measure
pH	See Special Condition 2.				1/Month	Grab
Temperature	See Special Condition 4.				Continuous	Measure
Total Residual Chlorine / Total Residual Halogen	See Special Condition 7.			0.05	1/Month	Grab
* - See Special Condition 19.						
Outfall 007 - Condenser Cooling Water Units 5 - 6 & Auxiliary Equipment Cooling Water* (Average Flow = 182 MGD)						
Flow (MGD)	See Special Condition 1.				Continuous	Measure
pH	See Special Condition 2.				1/Month	Grab
Temperature	See Special Condition 4.				Continuous	Measure
Total Residual Chlorine / Total Residual Halogen	See Special Condition 7.			0.05	1/Month	Grab
* - See Special Condition 19.						

## NPDES Permit No. IL0004171

## Effluent Limitations and Monitoring

1. From the effective date of this permit until the expiration date, the effluent of the following discharges shall be monitored and limited at all times as follows:

	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l			
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
<u>Outfall 008 - Flume Discharge*</u> (Average Flow = 1.4 MGD)  This discharge consists of: 1. Boiler Blowdown (B08) 2. Auxiliary Cooling Water Discharges 3. Yard Storm Drains** 4. Basement Floor Drains 5. Metal Cleaning Waste (A08)						
Flow (MGD)	See Special Condition 1.				1/Week	Measure
pH	See Special Condition 2.				1/Month	Grab
Temperature	See Special Condition 4.				1/Month	Single Reading
Total Suspended Solids			15.0	30.0	1/Month	Grab
Oil & Grease			15.0	20.0	1/Month	Grab
Molluscicide	See Special Condition 17.				1/Month	Grab
* - See Special Condition 19. ** - The limits do not apply to the yard storm drains, See Special Condition 15.						
<u>Outfall A08 - Metal Cleaning Waste (Non-Chemical Only)</u> (Average Flow = Intermittent Discharge)						
Flow (MGD)	See Special Condition 1.				1/Month	Measure
Total Suspended Solids			30.0	100.0	1/Month	Grab
Oil & Grease			15.0	20.0	1/Month	Grab
Copper (Total)			1.0	1.0	1/Month	Grab
Iron (Total)			1.0	1.0	1/Month	Grab

## NPDES Permit No. IL0004171

## Effluent Limitations and Monitoring

1. From the effective date of this permit until the expiration date, the effluent of the following discharges shall be monitored and limited at all times as follows:

	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l			
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
<u>Outfall 010 - Settling Lagoon Discharge**</u> (Average Flow = 3.2 MGD)						
This discharge consists of:						
1. Coal Pile Runoff						
2. Coal Reclaim Pit Sump Pump Discharge						
3. Coal Car Dumper Drains						
4. Crusher House Floor Drains						
5. Main Plant Floor Drains						
6. Bottom Ash Hopper Overflow						
7. North Plant Area Storm Drainage						
8. Auxiliary Equipment Cooling Water						
9. Settling Lagoon and Intake Dredging Wastewater*						
10. Reverse Osmosis / Demineralizer System Blowdown						
11. Metal Cleaning Waste (A10)						
Flow (MGD)	See Special Condition 1.				1/Week	Measure
pH	See Special Condition 2.				1/Week	Grab
Total Suspended Solids	See Special Condition 22.		15.0	30.0	1/Week	Composite
Oil & Grease			15.0	20.0	1/Month	Grab
Molluscicide	See Special Condition 17.				1/Month	Grab
Mercury	See Special Condition 21.		Monitor Only		1/Quarter	Grab
* - This wastestream may be directed to the ash pond. ** - See Special Condition 16, 19, and 23.						
<u>Outfall A10 - Metal Cleaning Waste (Non-Chemical Only)</u> (Average Flow = Intermittent Discharge)						
Flow (MGD)	See Special Condition 1.				1/Month	Measure
Total Suspended Solids			30.0	100.0	1/Month	Grab
Oil & Grease			15.0	20.0	1/Month	Grab
Copper (Total)			1.0	1.0	1/Month	Grab
Iron (Total)			1.0	1.0	1/Month	Grab

## NPDES Permit No. IL0004171

## Effluent Limitations and Monitoring

1. From the effective date of this permit until the expiration date, the effluent of the following discharges shall be monitored and limited at all times as follows:

	LOAD LIMITS lbs/day DAF (DMF)		CONCENTRATION LIMITS mg/l			
PARAMETER	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM	SAMPLE FREQUENCY	SAMPLE TYPE
Outfall 011 - Stormwater Runoff from Former Ash Pond* (Intermittent Discharge)						
* - See Special Condition 15.						
Outfall 012 - Stormwater Runoff from Railroad Car Unloading Facility* (Intermittent Discharge)						
Mercury	See Special Condition 21.		Monitor Only		1/Quarter	Grab
* - See Special Condition 15.						
Outfall 013 - Stormwater Runoff from Railroad Car Unloading Facility and Berm of an Ash Pond* (Intermittent Discharge)						
* - See Special Condition 15.						
Outfall 014 - Lagoon Sewage Treatment Plant Effluent & MEPI Sanitary Waste* (DMF = 0.075 MGD)						
Flow (MGD)	See Special Condition 1.				1/Week	Measure
pH	See Special Condition 2.				1/Month	Grab
BOD <sub>5</sub>	18	37	30	60	1/Month	Grab
Total Suspended Solids	23	46	37	74	1/Month	Grab
Dissolved Oxygen**					1/Month	Grab
Fecal Coliform***			Monitor Only		1/Month	Grab
* - See Special Condition 10.						
** - The DO concentration shall not be less than 6 mg/l. DO shall be reported as a monthly minimum concentration.						
*** - Sampling once a month May - October.						

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SPECIAL CONDITION 1. Flow shall be measured in units of Million Gallons per Day (MGD) and reported as a monthly average and a daily maximum on the Discharge Monitoring Report.

SPECIAL CONDITION 2. The pH shall be in the range of 6.0 to 9.0 and reported as a monthly minimum and monthly maximum.

SPECIAL CONDITION 3. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge, but prior to entry into the receiving stream.

SPECIAL CONDITION 4. Electric Energy, Inc. demonstration for the Joppa Power Plant in accordance with Section 316(a) of the CWA was approved by the Illinois Pollution Control Board in Order 77-124 dated September 1, 1977, which resulted in the following thermal limitation.

Thermal Discharge: Electric Energy Incorporated may operate Joppa Power Plant with a once-through cooling water system as long as thermal discharges from this facility do not exceed those levels associated with maximum power production capacity existing on February 22, 1977 (1,100 megawatts gross based on a 24-hour average).

In accordance with the 316(a) approved by the Board in Order 77-124, the maximum power production capacity shall not exceed 1,100 megawatts gross (24-hour average). The permittee shall report the monthly average load factor and the monthly maximum power production on the Discharge Monitoring Report.

SPECIAL CONDITION 5. If the permittee intends to request the continuation of the 316(a) alternative thermal limits in its next reissued NPDES permit, the permittee shall submit the information necessary to comply with 35 Ill. Adm. Code 106.1180 as part of the application for renewal of this permit.

SPECIAL CONDITION 6. If effluent monitoring cannot be completed for Outfall 008 during periods of continued flooding (Ohio River elevation 324.0 feet or greater) the Ohio River elevation shall be reported.

SPECIAL CONDITION 7. Total Residual Chlorine measured as Total Residual Halogen may not be discharged from each unit's main cooling condensers for more than two hours in any one day. Samples taken for chlorine/bromine monitoring purposes may be taken in the condenser cooling water discharge bay at a point representative of the discharge but prior to confluence with the rivers edge. Chlorine and bromine usage shall be subject to the following limitation.

All uses of the chlorine/bromine containing biocide approved by this Agency, such as for biofouling control, and regardless of duration, are subject to the discharge limit of 0.05 mg/l TRH (Total Residual Halogen) as an instantaneous maximum. Total Residual Halogen (TRH) shall be measured as the residuals from chlorine and/or bromine.

SPECIAL CONDITION 8. There shall be no discharge of chemical metal cleaning agents and associated rinses unless this permit has been modified to include the new discharge.

SPECIAL CONDITION 9. If effluent monitoring cannot be completed for Outfall 010 during periods of continued flooding (Ohio River elevation 326.0 feet or greater) the Ohio River elevation shall be reported.

SPECIAL CONDITION 10. Any use of chlorine to control slime growths odors or as an operational control, etc. shall not exceed the limit of 0.05 mg/l (daily maximum) total residual chlorine in the effluent. Sampling is required on a daily grab basis during the chlorination process. Reporting shall be submitted with the (DMR's) on a monthly basis.

SPECIAL CONDITION 11. There shall be no discharge of polychlorinated biphenyl compounds.

SPECIAL CONDITION 12. The applicant may use copper sulfate addition to the ash pond and lagoon to prevent algae growth in summer months.

SPECIAL CONDITION 13. In the event the permittee shall require the use of additives other than those previously approved by this Agency, or in the event the permittee increases the feed rate or quantity of the additives used beyond what has previously been approved by this Agency, the permittee shall notify this Agency in writing in accordance with the Standard Conditions, Attachment H.

SPECIAL CONDITION 14. The Permittee shall record monitoring results on Discharge Monitoring Report (DMR) Forms using one such form for each outfall each month.

In the event that an outfall does not discharge during a monthly reporting period, the DMR Form shall be submitted with no discharge indicated.

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The Permittee may choose to submit electronic DMRs (NetDMRs) instead of mailing paper DMRs to the IEPA. More information, including registration information for the NetDMR program, can be obtained on the IEPA website, <http://www.epa.state.il.us/water/net-dmr/index.html>.

The completed Discharge Monitoring Report forms shall be submitted to IEPA no later than the 28th day of the following month, unless otherwise specified by the permitting authority.

Permittees not using NetDMRs shall mail Discharge Monitoring Reports with an original signature to the IEPA at the following address:

Illinois Environmental Protection Agency  
Division of Water Pollution Control  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276

Attention: Compliance Assurance Section, Mail Code # 19

SPECIAL CONDITION 15.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR OUTFALLS 008, 011, 012 AND 013

A. A storm water pollution prevention plan shall be maintained by the permittee for the storm water associated with industrial activity at this facility. The plan shall identify potential sources of pollution which may be expected to affect the quality of storm water discharges associated with the industrial activity at the facility. In addition, the plan shall describe and ensure the implementation of practices which are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit. The permittee shall modify the plan if substantive changes are made or occur affecting compliance with this condition.

1. Waters not classified as impaired pursuant to Section 303(d) of the Clean Water Act.

Unless otherwise specified by federal regulation, the storm water pollution prevention plan shall be designed for a storm event equal to or greater than a 25-year 24-hour rainfall event.

2. Waters classified as impaired pursuant to Section 303(d) of the Clean Water Act

For any site which discharges directly to an impaired water identified in the Agency's 303(d) listing, and if any parameter in the subject discharge has been identified as the cause of impairment, the storm water pollution prevention plan shall be designed for a storm event equal to or greater than a 25-year 24-hour rainfall event. If required by federal regulations, the storm water pollution prevention plan shall adhere to a more restrictive design criteria.

B. The operator or owner of the facility shall make a copy of the plan available to the Agency at any reasonable time upon request.

Facilities which discharge to a municipal separate storm sewer system shall also make a copy available to the operator of the municipal system at any reasonable time upon request.

C. The permittee may be notified by the Agency at any time that the plan does not meet the requirements of this condition. After such notification, the permittee shall make changes to the plan and shall submit a written certification that the requested changes have been made. Unless otherwise provided, the permittee shall have 30 days after such notification to make the changes.

D. The discharger shall amend the plan whenever there is a change in construction, operation, or maintenance which may affect the discharge of significant quantities of pollutants to the waters of the State or if a facility inspection required by paragraph H of this condition indicates that an amendment is needed. The plan should also be amended if the discharger is in violation of any conditions of this permit, or has not achieved the general objective of controlling pollutants in storm water discharges. Amendments to the plan shall be made within 30 days of any proposed construction or operational changes at the facility, and shall be provided to the Agency for review upon request.

E. The plan shall provide a description of potential sources which may be expected to add significant quantities of pollutants to storm water discharges, or which may result in non-storm water discharges from storm water outfalls at the facility. The plan shall include, at a minimum, the following items:

1. A topographic map extending one-quarter mile beyond the property boundaries of the facility, showing: the facility, surface water bodies, wells (including injection wells), seepage pits, infiltration ponds, and the discharge points where the facility's storm



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water discharges to a municipal storm drain system or other water body. The requirements of this paragraph may be included on the site map if appropriate. Any map or portion of map may be withheld for security reasons.

2. A site map showing:
    - i. The storm water conveyance and discharge structures;
    - ii. An outline of the storm water drainage areas for each storm water discharge point;
    - iii. Paved areas and buildings;
    - iv. Areas used for outdoor manufacturing, storage, or disposal of significant materials, including activities that generate significant quantities of dust or particulates.
    - v. Location of existing storm water structural control measures (dikes, coverings, detention facilities, etc.);
    - vi. Surface water locations and/or municipal storm drain locations
    - vii. Areas of existing and potential soil erosion;
    - viii. Vehicle service areas;
    - ix. Material loading, unloading, and access areas.
    - x. Areas under items iv and ix above may be withheld from the site for security reasons.
  3. A narrative description of the following:
    - i. The nature of the industrial activities conducted at the site, including a description of significant materials that are treated, stored or disposed of in a manner to allow exposure to storm water;
    - ii. Materials, equipment, and vehicle management practices employed to minimize contact of significant materials with storm water discharges;
    - iii. Existing structural and non-structural control measures to reduce pollutants in storm water discharges;
    - iv. Industrial storm water discharge treatment facilities;
    - v. Methods of onsite storage and disposal of significant materials.
  4. A list of the types of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities. Also provide a list of any pollutant that is listed as impaired in the most recent 303(d) report.
  5. An estimate of the size of the facility in acres or square feet, and the percent of the facility that has impervious areas such as pavement or buildings.
  6. A summary of existing sampling data describing pollutants in storm water discharges.
- F. The plan shall describe the storm water management controls which will be implemented by the facility. The appropriate controls shall reflect identified existing and potential sources of pollutants at the facility. The description of the storm water management controls shall include:
1. Storm Water Pollution Prevention Personnel - Identification by job titles of the individuals who are responsible for developing, implementing, and revising the plan.
  2. Preventive Maintenance - Procedures for inspection and maintenance of storm water conveyance system devices such as oil/water separators, catch basins, etc., and inspection and testing of plant equipment and systems that could fail and result in discharges of pollutants to storm water.
  3. Good Housekeeping - Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm water conveyance system.

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4. Spill Prevention and Response - Identification of areas where significant materials can spill into or otherwise enter the storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, spill cleanup equipment and procedures should be identified, as appropriate. Internal notification procedures for spills of significant materials should be established.
5. Storm Water Management Practices - Storm water management practices are practices other than those which control the source of pollutants. They include measures such as installing oil and grit separators, diverting storm water into retention basins, etc. Based on assessment of the potential of various sources to contribute pollutants, measures to remove pollutants from storm water discharge shall be implemented. In developing the plan, the following management practices shall be considered:
  - i. Containment - Storage within berms or other secondary containment devices to prevent leaks and spills from entering storm water runoff. To the maximum extent practicable storm water discharged from any area where material handling equipment or activities, raw material, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water should not enter vegetated areas or surface waters or infiltrate into the soil unless adequate treatment is provided.
  - ii. Oil & Grease Separation - Oil/water separators, booms, skimmers or other methods to minimize oil contaminated storm water discharges.
  - iii. Debris & Sediment Control - Screens, booms, sediment ponds or other methods to reduce debris and sediment in storm water discharges.
  - iv. Waste Chemical Disposal - Waste chemicals such as antifreeze, degreasers and used oils shall be recycled or disposed of in an approved manner and in a way which prevents them from entering storm water discharges.
  - v. Storm Water Diversion - Storm water diversion away from materials manufacturing, storage and other areas of potential storm water contamination. Minimize the quantity of storm water entering areas where material handling equipment of activities, raw material, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water using green infrastructure techniques where practicable in the areas outside the exposure area, and otherwise divert storm water away from exposure area.
  - vi. Covered Storage or Manufacturing Areas - Covered fueling operations, materials manufacturing and storage areas to prevent contact with storm water.
  - vii. Storm Water Reduction - Install vegetation on roofs of buildings within adjacent to the exposure area to detain and evapotranspire runoff where precipitation falling on the roof is not exposed to contaminants, to minimize storm water runoff; capture storm water in devices that minimize the amount of storm water runoff and use this water as appropriate based on quality.
6. Sediment and Erosion Prevention - The plan shall identify areas which due to topography, activities, or other factors, have a high potential for significant soil erosion. The plan shall describe measures to limit erosion.
7. Employee Training - Employee training programs shall inform personnel at all levels of responsibility of the components and goals of the storm water pollution control plan. Training should address topics such as spill response, good housekeeping and material management practices. The plan shall identify periodic dates for such training.
8. Inspection Procedures - Qualified plant personnel shall be identified to inspect designated equipment and plant areas. A tracking or follow-up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorded.
- G. Non-Storm Water Discharge - The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharge. The certification shall include a description of any test for the presence of non-storm water discharges, the methods used, the dates of the testing, and any onsite drainage points that were observed during the testing. Any facility that is unable to provide this certification must describe the procedure of any test conducted for the presence of non-storm water discharges, the test results, potential sources of non-storm water discharges to the storm sewer, and why adequate tests for such storm sewers were not feasible.
- H. Quarterly Visual Observation of Discharges - The requirements and procedures for quarterly visual observations are applicable to all outfalls covered by this condition. The quarterly visual observations shall commence 1 year from the effective date of this permit.

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1. You must perform and document a quarterly visual observation of a storm water discharge associated with industrial activity from each outfall. The visual observation must be made during daylight hours. If no storm event resulted in runoff during daylight hours from the facility during a monitoring quarter, you are excused from the visual observations requirement for that quarter, provided you document in your records that no runoff occurred. You must sign and certify the document.
  2. Your visual observation must be made on samples collected as soon as practical, but not to exceed 1 hour or when the runoff or snow melt begins discharging from your facility. All samples must be collected from a storm event discharge that is greater than 0.1 inch in magnitude and that occurs at least 72 hours from the previously measureable (greater than 0.1 inch rainfall) storm event. The observation must document: color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. If visual observations indicate any unnatural color, odor, turbidity, floatable material, oil sheen or other indicators of storm water pollution, the permittee shall obtain a sample and monitor for the parameter or the list of pollutants in Part E.4.
  3. You must maintain your visual observation reports onsite with the SWPPP. The report must include the observation date and time, inspection personnel, nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.
  4. You may exercise a waiver of the visual observation requirement at a facility that is inactive or unstaffed, as long as there are no industrial materials or activities exposed to storm water. If you exercise this waiver, you must maintain a certification with your SWPPP stating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to storm water.
  5. Representative Outfalls - If your facility has two or more outfalls that you believe discharge substantially identical effluents, based on similarities of the industrial activities, significant materials, size of drainage areas, and storm water management practices occurring within the drainage areas of the outfalls, you may conduct visual observations of the discharge at just one of the outfalls and report that the results also apply to the substantially identical outfall(s).
  6. The visual observation documentation shall be made available to the Agency and general public upon written request.
- I. The permittee shall conduct an annual facility inspection to verify that all elements of the plan, including the site map, potential pollutant sources, and structural and non-structural controls to reduce pollutants in industrial storm water discharges are accurate. Observations that require a response and the appropriate response to the observation shall be retained as part of the plan. Records documenting significant observations made during the site inspection shall be submitted to the Agency in accordance with the reporting requirements of this permit.
  - J. This plan should briefly describe the appropriate elements of other program requirements, including Spill Prevention Control and Countermeasures (SPCC) plans required under Section 311 of the CWA and the regulations promulgated there under, and Best Management Programs under 40 CFR 125.100.
  - K. The plan is considered a report that shall be available to the public at any reasonable time upon request.
  - L. The plan shall include the signature and title of the person responsible for preparation of the plan and include the date of initial preparation and each amendment thereto.
  - M. Facilities which discharge storm water associated with industrial activity to municipal separate storm sewers may also be subject to additional requirement imposed by the operator of the municipal system

Construction Authorization

Authorization is hereby granted to construct treatment works and related equipment that may be required by the Storm Water Pollution Prevention Plan developed pursuant to this permit.

This Authorization is issued subject to the following condition(s).

- N. If any statement or representation is found to be incorrect, this authorization may be revoked and the permittee there upon waives all rights there under.
- O. The issuance of this authorization (a) does not release the permittee from any liability for damage to persons or property caused by or resulting from the installation, maintenance or operation of the proposed facilities; (b) does not take into consideration the structural stability of any units or part of this project; and (c) does not release the permittee from compliance with other applicable statutes of the State of Illinois, or other applicable local law, regulations or ordinances.

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- P. Plans and specifications of all treatment equipment being included as part of the stormwater management practice shall be included in the SWPPP.
- Q. Construction activities which result from treatment equipment installation, including clearing, grading and excavation activities which result in the disturbance of one acre or more of land area, are not covered by this authorization. The permittee shall contact the IEPA regarding the required permit(s).

REPORTING

- R. The facility shall submit an electronic copy of the annual inspection report to the Illinois Environmental Protection Agency at [epa.npdes.inspection@illinois.gov](mailto:epa.npdes.inspection@illinois.gov). The report shall include results of the annual facility inspection which is required by Part I of this condition. The report shall also include documentation of any event (spill, treatment unit malfunction, etc.) which would require an inspection, results of the inspection, and any subsequent corrective maintenance activity. The report shall be completed and signed by the authorized facility employee(s) who conducted the inspection(s). The annual inspection report is considered a public document that shall be available at any reasonable time upon request.
- S. The first report shall contain information gathered during the one year time period beginning with the effective date of coverage under this permit and shall be submitted no later than 60 days after this one year period has expired. Each subsequent report shall contain the previous year's information and shall be submitted no later than one year after the previous year's report was due.
- T. If the facility performs inspections more frequently than required by this permit, the results shall be included as additional information in the annual report.
- U. The permittee shall retain the annual inspection report on file at least 3 years. This period may be extended by request of the Illinois Environmental Protection Agency at any time.

Annual inspection reports shall be mailed to the following address:

Illinois Environmental Protection Agency  
Bureau of Water  
Compliance Assurance Section  
Annual Inspection Report  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276

- V. The permittee shall notify any regulated small municipal separate storm sewer owner (MS4 Community) that they maintain coverage under an individual NPDES permit. The permittee shall submit any SWPPP or any annual inspection to the MS4 community upon request by the MS4 community.

SPECIAL CONDITION 16. The Agency has determined that the effluent limitations in this permit constitute BAT/BCT for stormwater which is treated in the existing treatment facilities (Outfalls 001 and 010) for purposes of this permit reissuance, and no pollution prevention plan will be required for such stormwater. In addition to the chemical specific monitoring required elsewhere in this permit, the permittee shall conduct an annual inspection of the facility site to identify areas contributing to a stormwater discharge associated with industrial activity, and determine whether any facility modifications have occurred which result in previously-treated stormwater discharges no longer receiving treatment. If any such discharges are identified the permittee shall request a modification of this permit within 30 days after the inspection. Records of the annual inspection shall be retained by the permittee for the term of this permit and be made available to the Agency on request.

SPECIAL CONDITION 17. Application of Spectrus CT1300 and BULAB 6086 with detoxification for zebra mussel control:

- A. Application of Spectrus CT1300 and BULAB 6086 is authorized on an intermittent basis. The products shall not be used simultaneously or in consecutive twelve hour periods.
- B. Spectrus CT1300 and BULAB 6086 shall be injected at a rate sufficient to achieve up to a 15 mg/l concentration in the service water pump discharge header of the fire protection and service water systems. The application shall last twelve consecutive hours and not exceed three annual molluscicide applications.
- C. The discharge shall be completely detoxified as necessary using bentonite clay product. The detoxification chemical shall be injected at a ratio of 10 parts bentonite clay product to 1 part of detected Spectrus CT1300 and BULAB 6086. The detoxification chemical shall be injected as far up stream as possible to allow for optimum mixing.

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- D. The discharge for Spectrus CT1300 and BULAB 6086 shall be below detection (< 0.2 PPM). The discharge concentration shall be monitored at least twice (6-hours apart) during the twelve hour dosing period and twice (6-hours apart) during the twelve hour period following the application period.

SPECIAL CONDITION 18. The use or operation of this facility shall be by or under the supervision of a Certified Class K operator.

SPECIAL CONDITION 19. The use of any molluscicides, other than Spectrus CT1300 and BULAB 6086, require prior approval from the Agency. To obtain, approval, the permittee shall prepare a preliminary plan for bio-monitoring and submit the plan to IEPA for review and approval. Within ninety (90) days after approval of the bio-monitoring plan or other such date as contained in the IEPA's notification letter, the permittee shall begin bio-monitoring of the effluent discharge, when molluscicides are in the discharge.

Biomonitoring

1. Acute Toxicity - Standard definitive acute toxicity tests shall be run on at least two (2) trophic levels of aquatic species (fish, invertebrate) representative of the aquatic community of the receiving stream. Except as noted here and in the IEPA document "Effluent Biomonitoring and Toxicity Assessment", testing must be consistent with Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (Fourth Ed.) EPA-600/4-90-027F. Results shall be reported in accordance with Section 12 of the USEPA document. Unless substitute tests are pre-approved; the following tests are required:
  - a. Fish - 96 hour static or static renewal LC<sub>50</sub> Bioassay using 1- to 14-day old fathead minnows (*Pimephales promelas*).
  - b. Invertebrate 48-hour static LC<sub>50</sub> Bioassay using *Ceriodaphnia*.
2. Testing Frequency - The above tests shall be conducted the first two times each molluscicide (other than Spectrus CT-1300 and BULAB 6086) is used when either molluscicide is in the discharge. Tests shall be performed using effluent grab samples unless otherwise authorized by the IEPA. Results shall be submitted to IEPA within one (1) week of becoming available to the Permittee.

Should the results of one sampling event for either molluscicide (other than Spectrus CT-1300 and BULAB 6086) indicate toxicity, the Permittee shall discontinue use of that molluscicide until the permittee demonstrates to the Agency that the molluscicide will be applied in a manner and at a quantity and feed rate that will not cause toxicity. The permittee shall submit the results of the above indicated tests to the IEPA Division of Water Pollution Control/Planning Section at the address indicated in Special Condition 14.

3. The IEPA may modify this Permit during its term to incorporate additional requirements or limitations based on the results of the biomonitoring. In addition, after review of the monitoring results, the IEPA may modify this Permit to include numerical limitations for specific toxic pollutants. Modifications under this condition shall follow public notice and opportunity for hearing.

SPECIAL CONDITION 20. Electric Energy, Incorporated demonstration for the Joppa Power Plant in accordance with Section 316(b) of the CWA was approved by this Agency by letter dated April 12, 1979. Based on available information, the Agency has determined that the operation of the cooling water intake structure meets the equivalent of Best Technology Available (BTA) in accordance with the Best Professional Judgment provisions of 40 CFR 125.3 and 40 CFR 125.90(b), based on information available at the time of permit reissuance.

However, the Permittee shall comply with the requirements of the Cooling Water Intake Structure Existing Facilities Rule as found at 40 CFR 122 and 125. Any application materials and submissions required for compliance with the Existing Facilities Rule, shall be submitted to the Agency no later than 4 years from the effective date of this permit.

If for any reason, the Cooling Water Intake Structure Existing Facilities Rule is stayed or remanded by the courts, the Permittee shall comply with the requirements below. The information required below is necessary to further evaluate cooling water intake structure operations based on the most up to date information, in accordance with the Best Professional Judgment provisions of 40 CFR 125.3 and 40 CFR 125.90(b), in existence prior to the effective date of the new Existing Facilities Rule:

- A. The permittee shall submit the following information/studies within 4 years of the effective date of the permit:

1. Source Water Physical Data to include:

- a. A narrative description and scaled drawings showing the physical configuration of all source water bodies used by the facility including aerial dimensions, depths, salinity and temperature regimes;
- b. Identification and characterization of the source waterbody's hydrological and geomorphological features, as well as the methods used to conduct any physical studies to determine the intake's area of influence and the results of such studies; and

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c. Location maps.

2. Source Waterbody Flow Information.

The permittee shall provide the annual mean flow of the waterbody, any supporting documentation and engineering calculations to support the analysis of whether the design intake flow is greater than five percent of the mean annual flow of the river or stream for purposes of determining applicable performance standards. Representative historical data (from a period of time up to 10 years) shall be used, if available.

3. Impingement Mortality and Entrainment Characterization Study.

The permittee shall submit an Impingement Mortality and Entrainment Characterization Study whose purpose is to provide information to support the development of a calculation baseline for evaluating impingement mortality and entrainment and to characterize current impingement mortality and entrainment. The Study shall include the following in sufficient detail to support establishment of baseline conditions:

- a. Taxonomic identification of all life stages of fish and shellfish and any species protected under Federal, State, or Tribal law (including threatened or endangered species) that are in the vicinity of the cooling water intake structure(s) and are susceptible to impingement and entrainment;
- b. A characterization of all life stages of fish and shellfish, and any species protected under Federal, or State law, including a description of the abundance and temporal and spatial characteristics in the vicinity of the cooling water intake structure(s). These may include historical data that are representative of the current operation of the facility and of biological conditions at the site; and
- c. Documentation of the current impingement mortality and entrainment of all life stages of fish, shellfish, and any species protected under Federal, State, or Tribal Law (including threatened or endangered species) and an estimate of impingement mortality and entrainment to be used as the calculation baseline. The documentation may include historical data that are representative of the current operation of the facility and of biological conditions at the site. Impingement mortality and entrainment samples to support the calculations required must be collected during periods of representative operational flows for the cooling water intake structure and the flows associated with the samples must be documented.

B. The permittee shall comply with the following requirements:

1. At all times properly operate and maintain the intake equipment as demonstrated in the application material supporting the BTA determination.
2. Inform IEPA of any proposed changes to the cooling water intake structure or proposed changes to operations at the facility that affect impingement mortality and/or entrainment.
3. Debris collected on intake screens is prohibited from being discharged back to the canal. Debris does not include living fish or other living aquatic organisms.
4. Compliance Alternatives. The permittee must evaluate each of the following alternatives for establishing BTA for minimizing adverse environmental impacts at the facility due to operation of the intake structure:
  - a. Evaluate operational procedures and/or propose facility modifications to reduce the intake through-screen velocity to less than 0.5 ft/sec. The operational evaluation may consider modified circulating water pump operation; reduced flow associated with capacity utilization, recalculation or determination of actual total water withdrawal capacity. The evaluation report and any implementation plan for the operational changes and/ or facility modification shall be submitted to the Agency with the renewal application for this permit.
  - b. Complete a fish impingement and entrainment mortality minimization alternatives evaluation. The evaluation may include an assessment of modification of the traveling screens, consideration of a separate fish and debris return system and include time frames and cost analysis to implement these measures. The evaluation report and implementation plan for any operational changes and/ or facility modifications shall be submitted to the Agency with the renewal application for this permit.

C. All required reports shall be submitted to the Industrial Unit, Permit Section and Compliance Assurance Section at the address in Special Condition 14.

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This special condition does not relieve the permittee of the responsibility of complying with any other laws, regulations, or judicial orders issued pursuant to Section 316(b) of the Clean Water Act.

**SPECIAL CONDITION 21.** Outfalls 001, 010, and 012 shall be monitored for mercury on a quarterly basis. Samples must be analyzed by EPA Method 1631E using the digestion procedure described in Section 11.1.1.2 of 1631E, which dictates that samples must be heated at 50°C for 6 hours in a bromine chloride (BrCl) solution in closed vessels.

**SPECIAL CONDITION 22.** Compliance with the numerical effluent concentration for total suspended solids is not required when effluent concentrations in excess of the standards result entirely from influent concentration, evaporation and/or incidental addition of traces of materials not utilized or produced in the activity that is the source of the waste. If credit for the background concentration is requested the following determinations shall be made and reported:

1. Determine the total suspended solids of the river water (sample to be taken after the duplex filter).
2. Determine the total flow of river water used for non-contact cooling going to the settling lagoon.
3. Determine the total flow from the settling lagoon (Outfall 010).
4. Determine the total suspended solids of the settling lagoon effluent.
5. Determine the adjusted effluent concentration limit.
6. The facility must provide justification for the background credit consistent with 40 CFR 122.45(g) and 35 Ill. Adm. Code 304.103. This justification must be submitted with the DMR at the time the credit is claimed.

**SPECIAL CONDITION 23.** The Permittee shall monitor Outfalls 001 and 010 for the following parameters on a semi-annual basis. The Permit may be modified with public notice to establish effluent limitations if appropriate, based on the information obtained through sampling. The sample shall be a 24-hour effluent composite except as otherwise specifically provided below and the results shall be submitted on the DMRs to IEPA. The parameters to be sampled and the minimum reporting limits to be attained are as follows:

<u>STORET CODE</u>	<u>PARAMETER</u>	<u>MINIMUM REPORTING LIMIT</u>
01002	Arsenic	0.05 mg/l
01027	Cadmium	0.001 mg/l
01034	Chromium (Total)	0.05 mg/l
01042	Copper	0.005 mg/l
00718	Cyanide (grab) (weak acid dissociable)	5.0 ug/l
00720	Cyanide (grab not to exceed 24 hours) (Total)	5.0 ug/l
00951	Fluoride	0.1 mg/l
01045	Iron (Total)	0.5 mg/l
01046	Iron (Dissolved)	0.5 mg/l
01051	Lead	0.05 mg/l
01055	Manganese	0.5 mg/l
01067	Nickel	0.005 mg/l
32730	Phenols (grab)	0.005 mg/l
01147	Selenium	0.005 mg/l
01077	Silver (Total)	0.003 mg/l
01092	Zinc	0.025 mg/l

Unless otherwise indicated, concentrations refer to the total amount of the constituent present in all phases, whether solids, suspended, or dissolved, elemental or combined, including all oxidation states.

**SPECIAL CONDITION 24.** The effluent, alone or in combination with other sources, shall not cause a violation of any applicable water quality standard outlined in 35 Ill. Adm. Code 302.

